Assessment of Seed Producer Associations in Uganda

JULY-SEP 2021

Compiled by:
Namanda, S., McEwan, M., Rajendran, S., Oloka, B., and Namazzi, S.

Submitted by:

CIP INTERNATIONAL POTATO CENTER

CGIAR

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[1]Namanda, S., [2]McEwan, M., [2]Rajendran, S., [3]Oloka, B., and [3]Namazzi, S.

[1] International Potato Center (CIP), Uganda

[2] Internatoinal Potato Center (CIP), SSA

[3] National Crops Resources Reaseach Institute - Namulonge, National Agricultural Research Organization, P.O Box 7084 Kampala, Uganda

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International Potato Center

P.O. Box 1558, Lima 12, Peru

cip@cgiar.org • www.cipotato.org

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Executive summary

In Uganda, until recently, more institutionalized local seed production chain was limited to seed grains such as cereals and legumes and, to limited extent, vegetables. Over the past two decades, several initiatives have emerged to promote production of clean planting for both seed grains and plant parts of vegetatively propagated crops (VPCs), including sweetpotato. Initial efforts by partners (including line NGOs, public and private sectors, and farmers) have been made to establish active chain structures for production and dissemination of early generation to quality-declared seed. Uganda's national seed policy was reviewed to include VPCs for inspection and certification, piloted through established regional registered seed producer associations for sweetpotato planting material. Interventions continue to focus on improving the seed production and dissemination of clean planting for improved crop productivity.

The International Potato Center (CIP), through its SweetGAINS program, is currently implementing sustainable, inclusive seed systems for accelerated dissemination and adoption of market-preferred varieties in the Kamuli district in eastern Uganda. For this work to be successful, there must be an understanding of work and operations of established seed producer associations (SPAs) – which is the purpose of this report.

By investigating the on-going seed-related activities in this region, we can better inform and develop proposed interventions to improve seed systems for these farmers and, eventually, throughout Uganda. Our key focus would be on improving capacity of SPAs to learn and support seed system protocols for ensuring high-quality, disease-free seed with strong links between farmers and the marketplace.

Due to COVID-19, our interviews were taken over the telephone with randomly-selected 13 irrespective of crop focus. From these interviews, we conclude the following major points (which are elaborated in details and supported with evidence in this report):

1. Many SPAs deal with more than one seed crop
2. NGOs in the area are providing support to solve logistical, inspection-related and certification-related challenges;

From these observations, we make the following recommendations:

1. To enhance the capacity of SPAs to use clean seed in their respective areas of operation;
2. To encourage diversified seed incomes by focusing on multiple crops;
3. To enable phasal withdrawal of selected NGOs to drive more SPAs to be self-sustaining; and
4. To develop stronger knowledge among SPAs of market demands, business planning, and internal seed inspection.

The full set of recommendations with explanation are available in section 3.0.

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Acronyms

Kamuli S/Cane	Kamuli sugarcane producers association
MAAIF	Ministry of Agriculture, Animal Industry and Fisheries
MIFA	Mengya Integrated Farmers Association
NaCRRI	Namulonge Crops Resources Research Institute
NFIRC	Nyabyumba Farm Innovative Resource Center
NUSEMA	Northern Uganda Seed Multipliers Association
RTB	Roots Tubers and Bananas
SOSPPA	Soroti Sweetpotato Producers and Processors Association
UNSPPA	Uganda National Seed Potato Producers Association
WASWAPA	Wanale Seed and Ware Potato Producers Association

CHAPTER 1

1.1. Study justification

Many studies have shown that farmers' producers associations have improved livelihood and food security by providing access to extension services, credit, quality inputs and fairer market for farm produces (FAO, 2010; Bizikova et al., 2020). Further, the associations also improved bargaining power and appropriate decision-making among smallholder farmers with traders to have a fairer price (Rajendran, S., 2018), especially in developing countries (Bizikova et al., 2020). Collective action through farmers organizations often seen as a key factor in enhancing access to markets (Hellin et al., 2006).

In recent years, the number of associations are increasing. The major objective of these associations is to provide access to quality seed, finance, and markets for their members. In addition, the association also facilitate seed certification process by engaging regulators on timely basis. Further, the association also provides necessary trainings focusing on good agricultural practices and business skills on timely basis to their members. Currently these associations are operating at a national and regional level.

In Uganda, root, tubers, and banana (RTB) crops are major food security crops apart from Mazie. Though, root, tubers and banana crops are emerging in the market, but access to quality inputs and extension services for these crops among smallholders are always a challenge. Therefore, smallholder farmers have formed a group or associations or co-operative societies for selected crops to gain better access to quality inputs and improve crop income. Often these forms of collective actions who deals with root, tubers and banana are supported by developmental projects. However, some groups or associations able to run their activities by generating a revenue through a membership or several other ways of generating revenues due to level of commercialization of crops. For example, sugarcane and potato are a cash crop which have exclusive farmers organizations. For the potato crop, farmers have created a Uganda National Seed Potato Producers Association (UNSPPA). Whereas farmers who deals with less commercialization of RTB crops such as sweetpotato, they are part of the associations, but the associations normally deals with more than one crop. The reason behind, the association may not be able to generate sufficient revenue if the association deals with a single crop which have less commercial value. It might hamper association's functionality due to lack of fund generation. Therefore, it puts in the situation where sweetpotato producers to be part of with the association that deals with more than one crop. Uganda is one of the largest producers and consumers of sweetpotato in Sub-Saharan African countries. Rural consumers largely source roots from their own farm, whereas urban

consumers are fully dependent on market. The demand for root among urban consumers increasing in recent years due to fast growing urbanization in Uganda.

This situation has created increasing trend towards commercialization of sweetpotato crop which puts pressure on producers to produce more sweetpotato and trade with traders on a fair price and gain better bargaining power. This requires a collective action approach to deal with traders. At present, in Uganda, the sweetpotato production increases due to largely area expansion not through yield expansion. The reason behind, lack of access to quality sweetpotato planting materials and access to extension services on Good Agricultural Practices (GAPs) for root and vine production and access to right variety that provides more yield and better income.

Therefore, it is necessary to empower sweetpotato root and vine producers by providing them access to better market, quality inputs, extension, and credit services. At the same time, it is also necessary to link upstream of the seed value chain actors with the downstream of the seed value chain actors to ensure that farmers will have access to quality seed. This requires an exploration study to understand functionality of existing farmers associations who focuses on seed business in Uganda and learn lessons for strengthening the functionality of associations that deals with sweetpotato crop, particularly focusing on seed business. Therefore, in July – September 2020, CIP scientists have partnered with NaCRRI and have undertaken an exploration study in Uganda.

1.2. Methods

Structured interviews were conducted to understand the operations and experiences of different farmers' associations to inform planning for capacity building activities. In addition, using Strengths, Weaknesses, Opportunities and Threats (SWOT) analysis (Figure 1), the study also identifies strategies that farmers' associations follow to strengthen their activities. The interviews included the following themes: roles and responsibilities of committees, crops grown, quality control, support to members, business plans, source of generating funds for association, common customers and capacity building of seed producers.

The study involved a total of 18 individual respondents representing 14 farmers' associations for different crops including RTB crops. Associations were purposively selected to ensure that associations deal with vegetatively propagated crop (VPCs) as sweetpotato is part of VPCs by nature. The challenges faced by these crops are same. Purposely selected farmer-driven associations engaged in seed production irrespective of grain or plant part seed propagation. Due to COVID-19 pandemic related travel restrictions, telephone interviews were conducted.

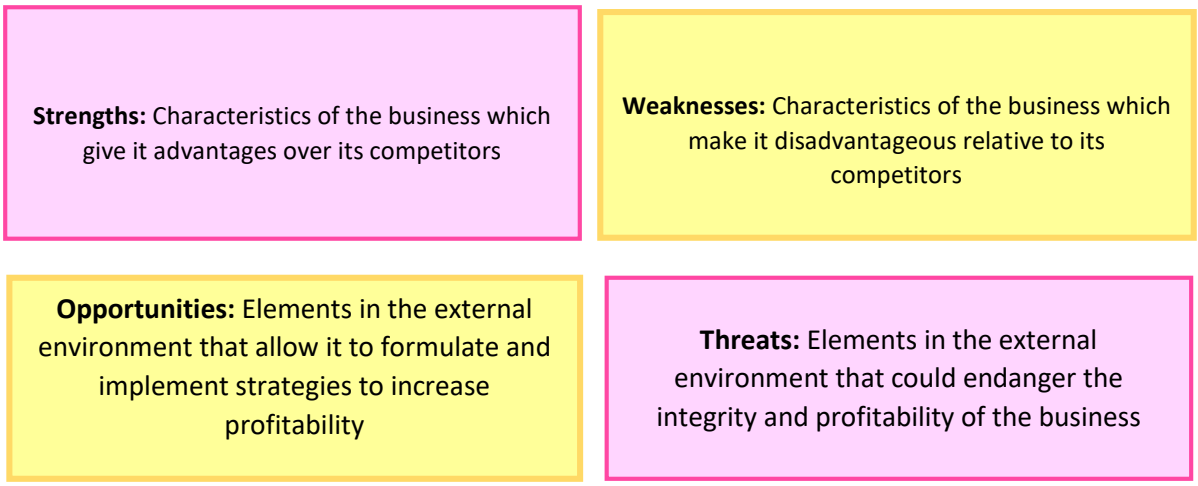


Figure 1. SWOT analysis framework for assessment of Seed Producers Associations in Uganda

CHAPTER 2

2.0 Results and discussion

2.1 Status of enrolment Seed Producer Associations by sex

Table 1. Summary of membership of Seed Producers' Associations

Association Name	District	# of years old	Total # of enrolled	Active Seed Producers by sex		
				Male	Female	Total
WASWAPA	Mbale	13	30	15	15	30
Mukama Afayo	Kamuli	5	30	5	10	15
NUSEMA	Gulu	4	73	31	42	73
SOSPPA	Serere	15	170	68	102	170
Tabagon Seed	Kween	3	15	1	4	5
UNSPPA	Kabale	21	17	12	5	`17
Kamuli s/cane	Kamuli	4	36	33	3	36
Bakulimya	Kamuli	6	29	9	20	29
Agali Awamu Farmers	Iganga	5	30	5	15	20
NFIRC	Kabale	6	20	11	9	20
Nawanyago	Kamuli	10	30	10	20	30
MIFA	Kween	12	40	22	18	40
Miti Farmer	Kyotera	10	65	35	30	65

Table 1 shows that low numbers of total active members for Mukama Afayo, Tabagon Seed and Agali Awamu Farmers seed producers' association, reportedly, attributed to some members being non-seed producers but belong to the association as active members of savings schemes. The main focus seed crop is potato for UNSPPA, WASWAPPA and MIFA, and sweetpotato for SOSPPA, Nawanyago and Miti SPAs. SOSPPA has both the largest numbers of total active members and women members. In Kamuli, apart from sugarcane association producing more commercially, Mukama Afayo, Agali Awamu and Nawanyago have more women SPs than men. Although, most of them are producing sweetpotato planting material, Nawanyago association is the only registered under eastern Uganda sweetpotato seed association for inspection and certification of sweetpotato planting material by the Ugandan Ministry of Agriculture, Animal Industry and Fisheries (MAAIF).

2.2. Roles of different committees of SPA

Table 2. Frequency of responses on roles of committees of 18 different Seed Producer Associations

Committee	Key roles	Frequency
Finance (N = 9)	Mobilize and enforce subscription	2
	Evaluate and recommend for loan/credit	4
	Marketing the product	1
	Accountability	1
	Advertising and promotions	1
Production and quality control (N= 18)	Internal quality control	6
	Determines the product to be promoted	1
	Sourcing starter material	1
	Ensure GAP	4
	Leads all the committees	1
	Records and field monitoring to assess field capacities	2
	Grading and sorting	1
	Plan production activities	2
Marketing (N = 8)	Selling seed and procuring starter material	4
	Conduct market intelligence	3
	Ensure members use quality seed	1
Procurement and logistics	Marketing seed and procuring starter seed	1
Stores and records (N= 3)	Record keeping	1
	Assess land available by member	1
Disciplinary (N = 1)	Ensure discipline among members	1
Executive (N = 2)	Bargain and acquire permits for sale of canes	1
	Process legal registration of association	1
Savings and Credit (N = 2	Encourage savings	2
	Manage loans	2
Training (N 2)	Ensure members practice recommended skills	1
	Ensure members can identify the different varieties	1

Table 2 illustrates the key organs of seed producer associations included the production, finance and marketing committees with roles of enhancing production and quality control, managing loans to members and selling or procuring basic seed for planting, respectively.

2.2.1. Objectives of SPA

Table 3. Foundation objectives of different seed associations (N=18)

Objective	Frequency	Organisation
Eradicate poverty at household level	2	Bakulimya and Tabagon
Savings and loan scheme	3	Bakulimya, Tabagon and Miti
Training registered members	6	SOSPPA, Nawanyago, NUSEMA, Miti, Mukama Afayo and UNSPPA
Ensure timely availability of quality seed and other inputs	8	SOSPPA, Miti, Nawanyago, NUSEMA, WASWAPPA, MIFA, NFIRC and UNSPPA
Collective bargaining and ensuring availability of market for seed	8	SOSPPA, Nawanyago, NUSEMA, Miti, Mukama Afayo, UNSPPA, NFIRC and Sugar cane association
Promote processing of canes	1	Sugar cane association
Promote quality seed potato production	7	SOSPPA, Nawanyago, NUSEMA, Miti, Mukama Afayo, UNSPPA and NFIRC

Table 3 shows that overall, availability of quality seed and marketing were key objectives upon which many seed associations were formulated and existed.

2.3. Seed crops grown by different SPAs

Table 4a. Selected Seed Producer association and seed crops grownTable 4a. Selected Seed Producer association and seed crops grown

Association, district	Crop(s)	Varieties produced	# of seasons
Mukama Afayo, Iganga	Sweetpotato	Kakamega, Ejumula, Semanda, Naspot 13, 8, 10	2
	Beans	Naro bean 1, 2, 3, Nabe 15	2
	Groundnuts	Serenut 14R	2
NUSEMA, Gulu	Sweetpotato	Ejumula, Kakamega, Naspot 13, Naspot 8, Naspot 11 Naspot 10	2
SOSPPA, Serere	Sweetpotato	Kakamega, Ejumula, Naspot 8; 10, 13, Tanzania	2
	Cassava	Narocas 1	1
	Ground nuts	Serenut 14, 11, 9	2
	Soya beans	MakSoy	2
	Green grams	Narogram	2
	Cowpeas	Secow 1, 2	2
Tabagon Seed, Kween	Beans	Nabe 15, Naro bean 2 , Naro bean 12C	2
WASWAPA, , Mbale	Potato	Rwagume, Kachpot 1, Kinigi	2
	Climbing beans	Nasse 12C	2
NFIRC, Kabale,	Potato	Rutuku, Victoria, Rwangume, Kachpot 1, Kinigi, Marilihindi	2
UNSPPA, Kabale	Potato	Rwangume, Kachpot 1, Kinigi, Victoria Rutuku	2
Sugarcane seed Ass. Kamuli	©Sugarcane	Berege (hard), Berege super, Mabowa	1
Bakulimya, Kamuli	Beans	Naro bean 1 & 2	2
	Cassava	Narocas, Nasse 14	1
Miti	Coffee	CWDR wilt resistant	1
	Sweetpotato	Ejumula, Naspot 8, 10, 11, 12, 13, and New Dimbuka	2
MIFA	Potato	Rwangume and Victoria	2
Nawanyago	Sweetpotato	Kakamega, Ejumula, Semanda, Naspot 8, 9, 10, and 13	2
	Beans	NARO Bean 2 and 3	2
	Cassava	NAROCAS 1, Nasse 14 and 19	1
Agali Awamu	Sweetpotato	Kakamega, Naspot 8, 13 and Kabode	2
	Beans	NARO Bean 2 and Roba 1	2

Table 4a shows that most of the seed producer associations were dealing in more than a single crop and several varieties.

2.3.1. Varieties grown by different SPAs

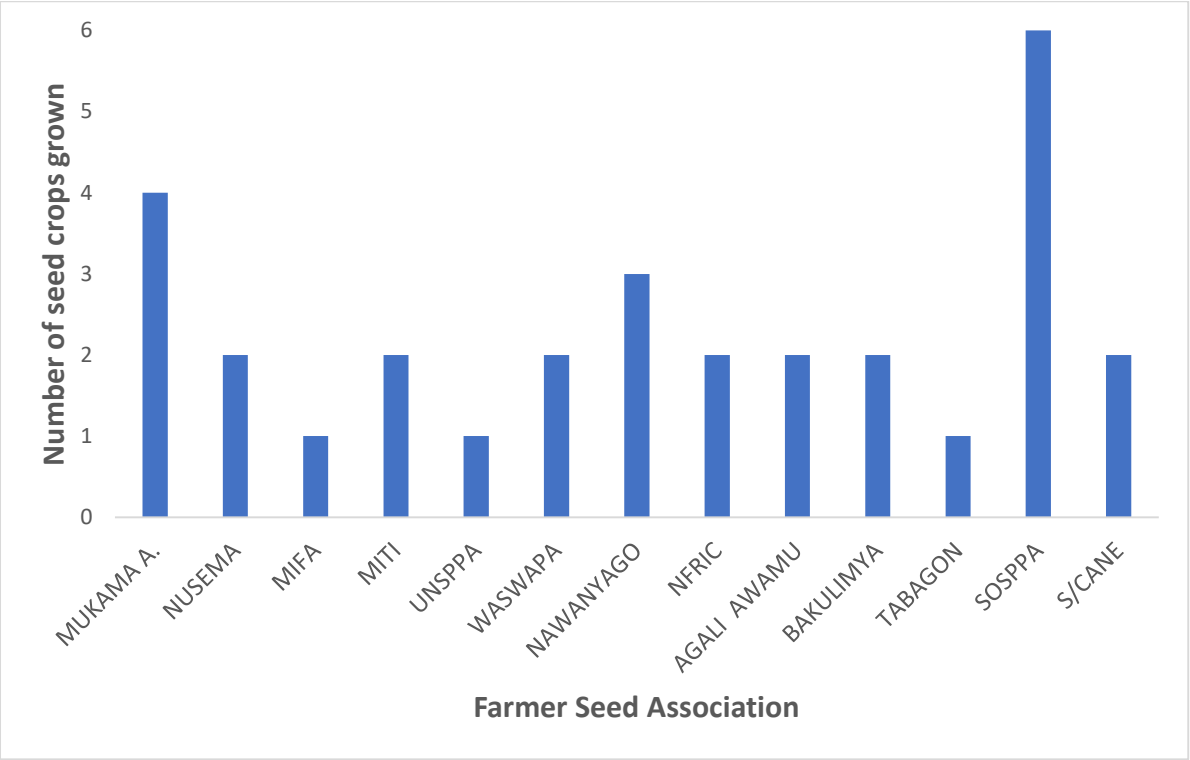
Table 4b. Selected Seed Producer association and seed crops grownTable 4b. Selected Seed Producer association and seed crops grown

Crop	Common varieties sold	Standard unit	Previous Units sold	Association
Sweetpotato	Kakamega, Naspot 13	✠Bags	3,000	Mukama Afayo
	☺Ejumula, Kakamega, Naspot 13	✠Bags	20,180	NUSEMA
	Kakamega, Naspot 13, Ejumula, Naspot 8	✠Bags	21,000	SOSPPA
Beans	Naro bean 1	Kg	200	Mukama Afayo
	Nabe 15, Naro bean 2	Kg	3,000	Tabagon Seed
	Nasse 12C	Kg	700	WASWAPA
	Naro bean 1 & 2	Kg	Nil	Bakulimya
Potato	Rwagume	Kg	6,000	WASWAPA
	Rwangume	Kg	2,460	NFIRC
	Rwangume	80-kg bag	590	UNSPPA
Cassava	Narocas 1	❆Bags	10,500	SOSPPA
	Narocas	Bags	50	Bakulimya
Ground nuts	Serenut 9 and 11	¥Bags	250	SOSPPA
Soya beans	MakSoy	Kg	600	SOSPPA
Green grams	Narogram	Kg	3,000	SOSPPA
Cowpeas	Secow 1, 2	Kg	4,000	SOSPPA
©Sugarcane,	Berege, Berege super	Tonnes	21,600	Sugarcane seed

☺ = Liked by consumers but degenerates fast, ❆ = Each bags 45kg or about 600 cuttings, ✠ = Each bag of 1000 cuttings each about 30-cm long, © = Immature canes are best for seed, and ¥ = Unshelled pods.

Whereas many seed varieties are planted (Table 4a) especially for sweetpotato and beans, table 4b shows that only a few of them are sold.

2.3.2. Number of seed crops grown by individual associations



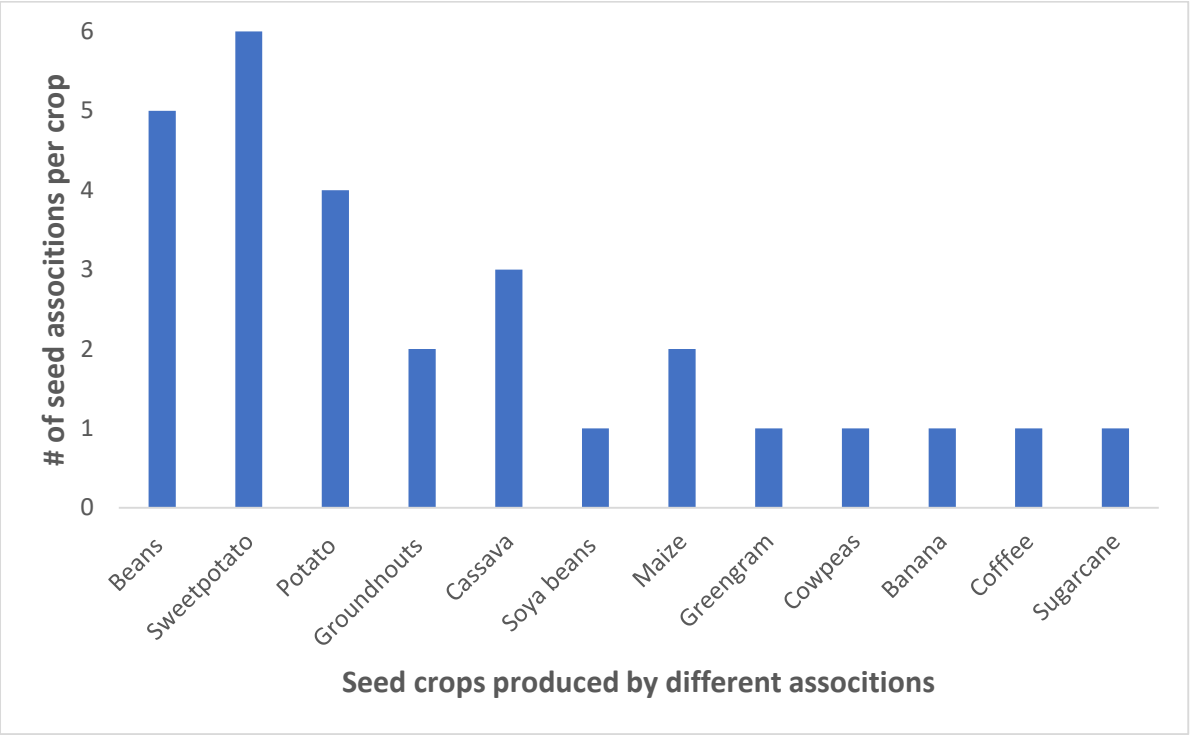


Figure 1a-b. Number of seed crops produced by each association in Uganda

Figure 1a – b shows that most of the seed association are dealing in more than one seed crop. out of the 13 seed association only 3 (23%) produce a single seed crop including MIFA and UNSPPA (potato) and Tabagon (beans). Nusema produces sweetpotato planting material of different classes including basic seed from screenhouses reportedly supported by HarvestPlus, Tabagon-seed, a women's association that started with the objective of rural savings and loan scheme through the merry-go rounds. Notably, perennial seed crops such as banana, coffee and sugarcane have specific niche market and limited members of seed associations dealing in them. Reportedly, SOSPPA, the oldest (15 years since inception) sweetpotato seed association and member of the Eastern Uganda sweetpotato regional association initially focused on sweetpotato planting material only, subsequently, producing the highest number of seed crops.

2.4 Seed quality control and assurance by different SPAs

Table 5a. Association focusing on Seed Potato (N=5)

Measure	Action	%	Importance	Type of quality assurance
Quality control, committee inspects member field	Pre-plant, during growth and at harvest inspections	100	Field land approval for production and product confirmation	Internal control
	Sorting and grading at harvest		Confirm quality seed & estimation	Internal
Screenhouse structures used	Produce pathogen symptomless seed	100	Source of basic seed	Internal by NFIRC
Production of disease-free mini tubers	Using apical cuttings (WASWAPA)	20	Cost-effective seed basic delivery	External support by CIP
Inspection and certification	MAAIF inspection	100	Confirm quality acceptance	External certification
Enhancement of technical skills of members	Trainings, attend seminars and provision of reference materials	100	Able to identify disease symptoms and practice GAP	Both internal and external
Application of seed box approach	Joint acquisition of basic seed	20	Rational allocation of basic seed based on capacity	Internal approach by WASWAPA

Both internal and external (MAAIF) quality control and quality assurance measures are applied. The internal measures are mainly to ensure adequate availability of land for seed

production, association supports acquisition of basic seed for members, and enhancing GAPs. Details of the reported inspection and certification by MAAIF are missing for experience sharing. The guidelines for inspection and certification are recent developments because MAAIF (2015) on the revised National seed policy indicated that there was no basic seed production for potato. Follow up recommended.

Table 5b. Sweetpotato seed-vine Producers' Association (N = 4)

Measure	Action	%	Importance	Type of quality assurance
Enhancement of technical skills of members	Trainings, attend seminars and provision of reference materials	100	Able to identify disease symptoms and practice GAP	Both internal and external
Screenhouse structures used	Produce pathogen symptomless seed	25	Source of basic seed	Internal by SOSPPA
Quality control, committee inspects member field	Pre-plant, during growth and at harvest inspections	100	Ensure members produce recommended seed quality	Internal control
	Coordinate joint supplies and deliveries	25	Confirm quality seed & estimation	Internal by SOSPPA
	Recommend not more than 2 ratoons	25	Minimize supply of infested cuttings an implement crop rotation	Internal by SOSPPA
	Approve member application for crop choices	25	Crop allocation based on member's mgt capacity	Internal by Mukama Afayo
	Confirm that each member has adequate land for production	100	Maintain isolation distances and rotations	Internal Ass. control
Inspection and certification	MAAIF inspection	100	Confirm quality acceptance	External certification
Replenishing seed material	Source material from Senai or BioCrops laboratories	100	Avoid continued recycling of degenerated material	Internal

Table 5b indicates similar actions for quality control as in 5a.

Table 5c. Cassava Producers' Association (N = 2)

Measure	Action	%	Importance	Type of quality assurance
Enhancement of technical skills of members	NARO facilitate training on cassava whitefly interventions	100	GAP by seed producers and ensure production of disease-free seed stems	MAAIF
	Association trainings supported by ISSD	50	Able to identify disease symptoms and practice GAP	Internal by Nawanyago & external by ISSD
Replenishing seed material	Source material from NARO	100	Avoid continued recycling of degenerated material	Internal association
Avoid widespread	Conduct field inspections and uproot infected		Minimise spread to un-infected material	Internal
Inspection and certification	MAAIF (District inspectors	100	Confirm quality acceptance	External supported by ISSD
Quality control, committee inspects member field	Confirm available land for production by member	25	Quality assurance	Internal Ass. control
	Field inspection by association team	100	Ensure members produce recommended seed quality	Internal control
	Recommend a single ratoon	25	Avoid build-up of diseases & infected material	Internal

Besides Table 5c shows increased support for training by NARO and ISSD

Table 5e. Sugarcane and Banana Producers' Associations (N = 2)

Measure	Action	%	Importance	Type of quality assurance
Sugarcane Seed producer Association				
Quality control, committee inspects member field	Field inspection by association team	100	Ensure members produce recommended seed quality and assess volumes available	Internal control
	Monitor maturity of planted seed fields	100	Seed canes should not overgrow beyond be 8 – 10 months after planting	Internal
	Training members		Implement 5% minimum deduction weight indicated on permit to cater for non-cane organic material	Internal and based on factory guidelines
Banana Seed producer Association				
Ensure starter material is disease-free	Plantlets sourced for starter material	100	Multiply and disseminate disease-free material	Internal &supported by Africa 2000 Network
Enhancement of technical skills of members	Trainings, attend seminars and provision of reference materials	100	Able to identify disease symptoms and practice GAP	Internal, Africa Network & MAAIF

Table 5c shows that quality control and quality assurance is mainly managed by the sugarcane association and more bulk sales are involved. MAAIF and Africa Network involved in capacity building the seed producers association members through training.

2.5 Sources of financial support to the associations and support to members

Table 6. Common sources of funds and logistical support to the associations

Source	Frequency of association
% sales contribution by members on consolidated sales for association operational costs	6
% interest rate on internal association saving loans given to members (If yes in 7.6)	5
Annual membership subscription (UGX) per member	5
Registration fee	7

Table 6 shows that internal sources of financing the association are mainly through member contributions and percent charge on sales by members.

Table 7. Support by collaborating institutions

Support	Support Org.	Seed Crop	Key technical areas	Freq
Training	IFDC	Potato	Seed stores mgt and irrigation	1
	ISSD	Beans	Field crop mgt and monitoring, Demos	2
	VEDCO	Sweetpotato	Training and mentoring	2
	CIP Uganda	Sweetpotato	Training	1
	CIP Uganda	Sweetpotato	Value addition	1
	AT Uganda	Beans	Soil mgt and fertilizer use	1
	CDA	Coffee	Nursery management	1
	HarvestPlus	Sweetpotato and beans	Agronomic and monitoring and valued addition	1
	NARO	Cassava	Disease management	1
Plantlets	KARZARDI	Potato	Foundation seed	1
Apical cuttings	CIP	Potato	Foundation seed	1
Basic seed	CHAIN Uganda	Beans	Foundation seed	2
Basic farm inputs	ISSD	Beans	Pests spray chemicals and basic seed	2
Aphid net	IFDC with Agromat	Potato	Screenhouse construction	1
	HarvestPlus,	Sweetpotato	Screenhouse construction	4
Packing material	ISSD	Beans	Standard packing material	1
Market	ISSD	Beans	Buys	1
Publicity and promotions	Iganga farmer Forum	Beans	Promote sales of seed	1
Coordination	EUSEMA	Sweetpotato	Market linkages	1
Funds	USAID	Sweetpotato, beans	Buys seed from members	2
Award contracts	Coffee Dev authority (CDA)	Coffee	Supply seedlings	1
Marketing	HarvestPlus	Sweetpotato, beans	Links to markets and buys seed from members	1
Factory	Gov't	Sugarcane	Construct ethanol distillery	1
Construct warehouse	Gov't (MAAIF)	Coffee	Bulking, storage and packing	1
Quality control	Gov't (MAAIF)	Sweetpotato	Inspection and certification	1
Quality control	CDA and Coffee Res	Coffee	Inspection and certification	
Packing & turplins	Self-Help Africa	Beans	Packing and drying material	1
Sing posts	IFDC	Potato	Advertisement	1
Storage	IFDC	Potato	Construct diffused light stores	1

Table 7 shows strong NGO drive in the buildup of the seed producer association especially in the links to acquisition of foundation seed, infrastructural development such as establishment of screenhouses and links to potential seed markets. Training is a key component supported by different organisations across different seed crops. Notably, both seed acquisition and market linkages and inspection and certification are largely steered by collaborating NGOs.

Table 8. How associations frequently support their members

Approach	Frequency	Association(s)
Collective sales or linking farmers to markets	3	Kamuli sugar cane growers, UNSPPA, SOSPPA
Attending field days and agriculture shows	2	Tabagon seed, Mukama Afayo,
Advertisement by provision of signposts, radio	2	Nawanyago OFSP farmers, Tabagon seed growers
Training in GAP and value addition	4	UNSPPA, Bakulimya, Mukama Afayo, SOSPPA
Internal quality management	4	WASWAPPA, UNSPPA, SOSPPA, Bakulimya,
Support each in urgent need	3	Tabagon seed, Nawanyago OFSP farmers
Assist in obtaining foundation seed	3	UNSPPA, WASWAPPA, Agali Awamu Farmers Association
Operate revolving fund/loans to boost individual household incomes	2	UNSPPA, Tabagon seed
Obtaining permits for supply of material	1	Kamuli sugar cane growers,
Create linkages for extension services	1	SOSPPA
Attract other development partners	1	
Linkage to NaSARRI (SOSPPA) and BugiZARDI (WASWAPPA)	2	SOSPPA, WASWAPPA

Table 8 shows that different associations have focus on extending support to their members. Commonly, associations focus on empowering members through trainings, internal quality management, and collective marketing.

2.6. Business plans

Table 9. Status of implementation of activities by association (N = 14)

Activity	Frequency		
	Individually	Jointly	Externally
Buying initial seed	0	14	0
Seed production	8	1	0
Quality management	1	14	8
Branding	1	4	0
Market promotion	0	10	0
Selling seed	1	14	0
Savings (Merry Go-round)	0	2	0

Table 9 shows that most buying initial seed, quality control and selling of seed produced is done at association level not individual seed producer. This may be attributable to mainly institutional contribution in forming these associations and their role in linking the seed association to potential market because most of the seed produced is bought by institutions.

Both internal and Organisation quality control are adequately implemented because the role of institutions in providing technical backstopping in building the skills and technical capacities of the seed associations. Most of the external quality control is inspection by MAAIF and ISSD. Seed production is only done jointly by sugarcane because they are few and the crop is more commercialized and requires extensive land that many small seed growers cannot afford or access. A few seed producers under SOSPPA association are dealing in selected crops that are sold at individual level.

Branding to many associations referred to the unit of packing e.g. bags, and the majority reported their seed being generally superior compared to other farmers' seed. The branding referred to is mainly the label packing bags provided by ISSD for packing grain seeds otherwise the concept of branding is not being practiced by the associations. Customers are normally known, Organisation such ISSD provide packing material based on estimated seed production by each association member so difficult to sell fake seeds.

Table 10. How association decide on selling prices for seed of selected crops

Pricing method	Frequency
Beans (N = 6)	
Depends on quality produce (low-grade; low price and high-grade; high price)	1
Normally double the market price of ware bean	1
Based on market prevailing prices	2
Support NGOs provide direction on market price	1
If market prices are low, they hoard to wait for better prices	1
ISSD provides training on local business and association is informed on prices	1
CHAIN Uganda provides information on prices	1
Cassava (N = 2)	
CHAIN Uganda provides information on prices	1
Support NGOs provide direction on market price	1
Based on market prevailing prices	1
Potato (N = 3)	
Association decides depending on prevailing prices	2
ISSD provides training on local business and association is informed on prices	1
Depends on quality produced	1
Sweetpotato (N = 5)	
Minimum farmgate sales price offered (UgSh. 8000)	2
Maximum farmgate sales price offered (UgSh. 15,000)	3
HarvestPlus provides information on available potential buyers prices	4
Different institutions offer different prices	1
Bananas (N = 1)	
Each sucker is sold at UgSH. 2,000	1
CAHIN Uganda provides guidance of prices	1

Table 10 shows associations lacked systematic decision on prices for seed. Pricing was mainly guided by supporting organisations and depended on prevailing non-seed market prices for seed crop.

Table 11. Awareness and promotional activities by association

Activity	Frequency									Total +ves
	Sugar cane	Cassava	Beans	Beans (C)	Sweetpotato	Ground nuts	Soya beans	Green grams	Potato	
National Field day		++	+++	+	+++++	+	+	+	+++	17
District field days				+					+	2
Roadside markets					+					1
Poster		+	+		++					4
Demons		+	++		+ +				+	6
Seed fairs					+					1
Radio	+								+	2
WhatsApp	+									1
Harvest money demos									+	1
New Vision									+	1
Sign post (IFDC supported` ``)									+	1
WFD Exhibition					+					1
Total +ves	2	4	6	2	12	1	1	1	9	38

⚐ Referring to annual agricultural shows which are normally supported by collaborating institutions such as HarvestPlus, ISSD and IFDC, ✠ Roadside market stalls supported by HarvestPlus.

Table 11 shows that annual national agricultural field shows or days present the commonest opportunity for seed producers' associations to promote their activities to the public. Others common ones are demonstrations and poster presentations. Crops regularly promoted include sweetpotato, potato, beans, and cassava.

Table 12. Record of previous quantities of different seed crop varieties sold by different association in Uganda

Association	Crop	Common vars sold	# of seasons	Standard Units	Previous sales (Units)	Av P. (UGX) per Unit
Mukama Afayo	Sweet potato	Kakamega, Naspot 13	2	Bags	3,000	15,000
	Beans	NARO Bean 1	2	Kg	200	4,000
	Ground nuts	Serenut 14R	2	Kg	200	7500
NUSEMA	Sweet potato	Ejumula, Kakamega, Naspot 13	2	Bags	10,000+	15,000
SOSPPA	Sweet potato	Ejumula, Kakamega, Naspot 8 and 13	2	Bags	20,000+	12,000
	Cassava	NAROCAS 1	1	Bags	10,500	15,000
	Groundnuts	Serenut 9 and 11	2	Kg	250	10,000
	Soya beans	MakSoy	2	Kg	600	3,000
	Green grams	NARO Gram	2	Kg	3,000	7,000
	Cow peas	Secow 1 and 2	2	Kg	4,000	3,000
Tebagon	Beans	Nabe 15 and NARO Bean 2	2	Kg	3,000	5,000
WASWAPA	Potato	Rwagume	2	Kg	6,000	1,800
	Beans (C)	Nasse 12C	2	Kg	700	6,000
NFIRC	Potato	Rwangume	2	Kg	2,460	
UNSPPA	Potato	Rwangume	2	Kg	47,200	
Kamuli Seed canes	Sugar cane	Berege and Berege super	1	Tonnes	21,600	99,000
	Banana plantlets	Musakala	1	#	800	2,000
Bakulimya	Beans	NARO Bean 1 and 2	2	Kg	Nil	Nil
	Cassava	NAROCAS 1	1	Bags	50	20,000
Agali Awamu Farmers	Sweetpotato	Kabode, Naspot 8 and 13	2	Bags	420	15,000
	Beans	NARO Bean 2	2	Kgs	6000	4,000
Nawanyago	Sweetpotato	Kakamega, Semanda , Naspot 8 and 13	2	Bags	3,500	10,000
	Beans	NARO Bean 2	2	Kgs	550	4,000
	Cassava	NAROCAS 1 and Nasse 14	1	Bags	100	15,000
Miti	Coffee	CWDR	1	Seedlings	1,000	40,000
	Sweetpotato	Naspot 8, 11 and new Dimbuka	2	Bags	6,000	10,000 – 15,000

Table 12 shows that even seed association do not sell all varieties being multiplied are sold. Among the key reasons is that those not sold are not largely preferred. Many association seed producers reported benefits including construction of individual permanent houses, payment of school fees and acquisition of land for cultivation provided evidence of the economic contribution of seed producer association to individual members. Seed enterprises enhanced household richness among and within farming communities. Crop improvement strategies oriented toward local seed markets could provide important benefits and incentives to farm households living in these marginal environments. There is a need, however, for an enhanced theoretical understanding of local seed markets in analysing crop variety choices and the diversity of materials grown in less favoured environments.

Table 13a. Source of capitalization by different Seed Producer Associations

Source of revenue and input sources	Yes = √ and No = x response by different seed producer associations						
	MAY	NSM	SPA	TBG	WSP	NRC	USP
% contribution on sales	√	√	√	√	√	√	x
% loans to members	x	√	√	√	√	√	√
Entry membership	√	√	√	√	√	√	√
Seasonal subscription	√	√	√	x	√	√	√
Projects' support	√	√	√	√	√	√	√
Seed subsidies	√	√	√	√	√	√	√
S/house provided by partners	√	√	√	√	√	√	√
Demonstrations hosted	x	x	√	√	√	√	√
Partners' support for adverts	√	√	√	√	√	√	√
Cost of certification by NGO	√	√	√	√	√	√	√
Packing material provided	√	√	x	√	x	x	√
Cost sharing input	x	x	√	x	x	x	√
Basic seed grains provided	x	x	√	x	x	x	x
Potato apical cuttings provided	x	x	x	x	√	√	√
Diffused seed stores / Irrigation	x	x	x	x	x	√	x
Ambient ware stores constructed	x	x	x	x	√	x	x
≥ a single seed-crop produced	√	√	√	x	√	√	√

Table 13b. Source of capitalization by different Seed Producer Associations (continued)

Source of revenue and input sources	Yes = √ and No = x response by different seed producer associations (1 -12)					
	SCN	BKM	AFA	NWG	MIT	MIF
% contribution on sales	√	√	√	x	√	√
% loans to members	√	√	√	√	√	√
Entry membership	√	√	√	√	√	√
Seasonal subscription	√	x	x	√	√	√
Projects' support	x	x	√	√	√	√
Seed subsidies	x	√	√	√	√	√
S/house provided by partners	x	x	x	√	√	√
Demonstrations hosted	x	√	√	√	√	√
Partners' support for adverts	x	x	√	√	√	√
Cost of certification by NGO	x	x	√	√	√	√
Packing material provided	x	x	x	x	√	√
Cost sharing input	x	x	√	√	√	√
Basic seed grains provided	x	x	x	x	x	x
Potato apical cuttings provided	x	x	x	x	x	x
Diffused seed stores / Irrigation	x	x	x	x	x	x
Ambient ware stores constructed	x	x	x	x	x	√
≥ a single seed-crop produced	√	√	√	√	√	√

NB: MAY (Mukama Afayo), NSM (NUSEMA), SPA (SOSPPA), TBG (Tabagon), WSP (WASWAPPA), NRC (NFIRC), USP (UNSPPA), SCN (Sugarcane), BKM (Bakulimya), MTI (Miti), AFA (Agali Awamu Farmers), NWG (Nawanyago OFSP), MTI (Miti Farmers), MIF (Mengya

2.7. Seed business and support to SPA members

Table 14a. How associations create values

#	Access to:	N = 13	% respondents	Associations
1	Quality seed	13	100	UNSPPA, Nawanyago, Bakulimya, NUSEMA, NFIRC, Agali Awamu farmers, S/cane, WASWAPPA, SOSPPA, Tabagon, Mukama Afayo, Miti, Mengya
2	Irrigation	1	7.7	NFIRC
3	Multiple crops	12	92.3	UNSPPA, Nawanyago, Bakulimya, NUSEMA, NFIRC, Agali Awamu farmers, WASWAPPA, SOSPPA, Miti, Mengya, S/cane
4	Benefit from adverts	11	84.6	UNSPPA, Nawanyago, NUSEMA, NFIRC, Agali Awamu farmers, WASWAPPA, SOSPPA, Tabagon, Miti, Mengya,
5	Training opportunities	13	100	UNSPPA, Nawanyago, Bakulimya, NUSEMA, NFIRC, Agali Awamu farmers, S/cane, WASWAPPA, SOSPPA, Tabagon, Mukama Afayo, Miti, Mengya
6	Screenhouses nets	10	76.9	UNSPPA, Nawanyago, NUSEMA, NFIRC, WASWAPPA, SOSPPA, TABAGON, Mukama Afayo, Miti, Mengya
7	Seed subsidies	12	92.3	UNSPPA, Nawanyago, Bakulimya, NUSEMA, NFIRC, Agali Awamu farmers, WASWAPPA, SOSPPA, Tabagon, Mukama Afayo, Miti
8	Certification services	10	76.9	UNSPPA, Nawanyago, NUSEMA, NFIRC, Agali Awamu farmers, WASWAPPA, SOSPPA, Tabagon, Miti, Mengya, Sugarcane
9	Loans or merry go rounds	12	92.3	UNSPPA, Nawanyago, Bakulimya, NUSEMA, NFIRC, Agali Awamu farmers, WASWAPPA, SOSPPA, Tabagon, Miti, Mengya, Sugarcane
10	Apical cuttings	3	23.1	WASWAPPA, UNSPPA, NFIRC
11	Better market	13	100	UNSPPA, Nawanyago, Bakulimya, NUSEMA, NFIRC, Agali Awamu farmers, S/cane, WASWAPPA, SOSPPA, Tagon, Mukama Afayo, Miti, Mengya

Table 14a shows that access to key seed productive inputs including quality basic seed, technical capacity building through trainings and access to financial services are crucial across associations.

Table 14b. How associations Deliver value

#	Support	Associations
1	Early generation seed (EGS)	UNSPPA, Nawanyago, Bakulimya, NUSEMA, NFIRC, Agali Awamu farmers, S/cane, WASWAPPA, SOSPPA, Tabagon, Mukama Afayo, Miti, Mengya
2	Irrigation pumps	NFIRC
3	Participation in radio talk shows and achievement days	UNSPPA, Nawanyago, NUSEMA, NFIRC, Agali Awamu farmers, WASWAPPA, SOSPPA, Tabagon, Miti, Mengya,
4	Hosting demonstration	UNSPPA, Nawanyago, Bakulimya, NUSEMA, NFIRC, Agali Awamu farmers, S/cane, WASWAPPA, SOSPPA, Tabagon, Mukama Afayo, Miti, Mengya
5	Sharing available market opportunities	UNSPPA, Nawanyago, Bakulimya, NUSEMA, NFIRC, Agali Awamu farmers, WASWAPPA, SOSPPA, Tabagon, Mukama Afayo, Miti
6	Conducting internal inspection	UNSPPA, Nawanyago, NUSEMA, NFIRC, Agali Awamu farmers, WASWAPPA, SOSPPA, Tabagon, Miti, Mengya, Sugarcane
7	Merry go rounds and revolving fund	UNSPPA, Nawanyago, Bakulimya, NUSEMA, NFIRC, Agali Awamu farmers, WASWAPPA, SOSPPA, Tabagon, Miti, Mengya, Sugarcane

Table 14b shows that support for early generation seed, irrigation equipment, market opportunities are important to showcase the seed activities.

Table 14c. How associations Capture value

#	Source	Associations
1	% contribution on sales (commissions)	Bakulimya, NUSEMA, NFIRC, Agali Awamu farmers, S/cane, WASWAPPA, SOSPPA, Tabagon, Mukama Afayo, Miti, Mengya
2	% loans to members	UNSPPA, Nawanyago, Bakulimya, NUSEMA, NFIRC, Agali Awamu farmers, WASWAPPA, SOSPPA, Tabagon, Miti, Mengya, Sugarcane
3	Entry membership	UNSPPA, Nawanyago, Bakulimya, NUSEMA, NFIRC, Agali Awamu farmers, S/cane, WASWAPPA, SOSPPA, Tabagon, Mukama Afayo, Miti, Mengya
4	Seasonal subscription	UNSPPA, Nawanyago, Bakulimya, NUSEMA, NFIRC, Agali Awamu farmers, S/cane, WASWAPPA, SOSPPA, Tabagon, Mukama Afayo, Miti, Mengya
5	Projects' support	UNSPPA, Nawanyago, NUSEMA, NFIRC, Agali Awamu farmers, WASWAPPA, SOSPPA, Tabagon, Mukama Afayo, Miti, Mengya

Table 14c shows that associations are able to capitalise the activities by generating funds through subscriptions and projects' funding.

Table 14d. How associations defend value

#	Source	Associations
1	Internal inspection	Bakulimya, NUSEMA, NFIRC, Agali Awamu farmers, S/cane, WASWAPPA, SOSPPA, Tabagon, Mukama Afayo, Miti, Mengya
2	Participate in achievement days and workshops	UNSPPA, Nawanyago, Bakulimya, NUSEMA, NFIRC, Agali Awamu farmers, WASWAPPA, SOSPPA, Tabagon, Miti, Mengya, Sugarcane
3	Jointly source early generation material	UNSPPA, Nawanyago, Bakulimya, NUSEMA, NFIRC, Agali Awamu farmers, S/cane, WASWAPPA, SOSPPA, Tabagon, Mukama Afayo, Miti, Mengya
4	Collectively sell seed	UNSPPA, Nawanyago, Bakulimya, NUSEMA, NFIRC, Agali Awamu farmers, S/cane, WASWAPPA, SOSPPA, Tabagon, Mukama Afayo, Miti, Mengya
5	Provide packing material	UNSPPA, Nawanyago, NUSEMA, NFIRC, Agali Awamu farmers, WASWAPPA, SOSPPA, Tabagon, Mukama Afayo, Miti, Mengya

Table 14d indicates that association defend their value by show casing through workshops and collective activities such as selling and sourcing early generation material.

Table 15. Common buyers of Seed producers' Association seed

Seed Crop	Common Buyer	Frequency
Sweetpotato	HarvestPlus	3
	VEDCO	3
	Schools	2
	Health centres	1
	Namasagali University	1
	PLAN	1
	Local communities	1
	NGOs	2
	Secondary Vine multipliers	1
Potato	NARO	1
	Local communities	1
	NGOs	2
Climbing beans	NARO	1
Beans	Local communities	1
	NGOs	2
Cassava	Local community	1
	NARO	1
	NGOs	1
Groundnuts	NGOs	1

Table 15 shows that the frequency of institutional seed buying is the commonest across seed crops and what is your interpretation?

Table 16. How Seed Producers Associations support their members: strengths (Scale: High = (≥ 75% N), Medium = (≥ ≤ 50% N) and Low = (< 50% N)

Strength	Scale
Organise trainings for members	Low
Market and link members to other seed networks	High
Produce more than one seed crop (N = 12)	High
Promote quality control measures including GAPs, grading, sourcing EGS	High
Promote sales through adverts	Low
Operate savings and credit or loan schemes	High
Procure EGS material	Low
Advertise and promote sales	Low
Keep records and field monitoring	Low

Table 16 shows that technical capacity building through trainings and market linkages for quality planting material are high priority services extended to members.

Table 17. How Seed Producers Associations support their members: weakness (Scale 1 – 5: 1 = very low, 2 = low, 3 = medium, 4 = high, 5 = very high)

Weakness (N = 18)	Score
Incentive / morale	High
Individual seed producers ignorant or disconnected from EGS sources for basic material	High
Institutional support to production and marketing of planting material biases selection of varieties	High
All varieties produced by the registered seed producers are selected by supporting projects and companies not local market priorities	High
Generally, limited sources of EGS material and distant	High
Commercialised varieties are not market preferred	High
Whole dependence on institutional support to produce planting material of projects' preferred varieties limits sustainability because projects have limited operational durations	High
	High

Table 18. Potential impact of the opportunities (Scale 1 – 5: 1 = very low, 2 = low, 3 = medium, 4 = high, 5 = very high) for Seed Producers' Associations

Potential impact of opportunities	Score
Funding extended to seed producers' associations for production of planting material because of dealing in NGO-preferred varieties	High
Joint marketing of members' seed enhances bargaining power and confidence building	High
Entry platforms for other stakeholders promoting seed-related initiatives thus, developing new alliances with multi-stakeholders	High
On-farm adaptation e.g. using screenhouses for sweetpotato and stem cuttings potato for production of EGS material reduces the cost on seed	High
Meeting the requirements for enrolment with existing regional seed producer association insures registration for seed inspection and certification and market access	High
Savings and loans schemes are possible sources of funding the seed enterprise	High
Diversification into new seed product categories and/or options opens up alternative seed markets which builds new revenue streams	High
Institutional seed markets including schools provide wider market base for quality planting material and more profitable customer choice	High
Joint Starter seed sourcing reduces on transport costs and on-farm production of clean planting material decreases costs paid for EGS at on-station and transportation to on-farm thus, boosting its profitability or passing on the benefits to the end-users of clean planting material	High

Table 18 shows that successful seed association have high for funding form different support organization as they diversify the crops produced as they are key entry platforms in the communities.

Table 19. How would the following threats impact on the seed producers' association activities? Impact of threats (Scale 1 – 5: 1 = very low, 2 = low, 3 = medium, 4 = high, 5 = very high)

Impact of threats	Score
Focusing on institutional priority varieties such as orange-fleshed sweetpotato is disincentive to improving production and productivity of locally market preferred varieties	High
General lack of branding creates unclear distinction between clean and unclean planting material	High
Fragility and unsustainability of seed systems due to lack of inclusion of local market preferred varieties among the clean material being promoted by institutions in collaboration with seed producer associations	High
Whereas the seed producers' associations operate parallelly within the potential crops producing communities, the markets share of the varieties being supported is generally associated with institutional linkages but not demanded by local customers. Such is evidence of lack of changing customer buying behavior which is a threat to the seed system supply chain.	High
Most seed Producers Associations lack effective business and not well informed about the seed demand during different seasons	High
Seed Producer Associations do not have choice of varieties to produce thus, excluding even the most market preferred	High
Whereas diversity in seed crops cushions income, seed producers need multiple trainings because different seed crops may require specific skills	High
Although seed production seemed profitable, there was lack of evidence on farmer-to-farmer purchases. Record keeping needs to be enhanced	High

Table 19 sows that most of the seed association deal in projects' targeted varieties and do not effective business plans to show the projected volumes.

3.0 Recommendations, conclusions, and areas of attention

3.1 Recommendations

1. Ensuring timely availability of inputs including quality seed and market for seed were the key aims of SPA formation. However, sources of basic seed were very proximally distant and very expensive, and not easily accessible to insect-proof nets unless provided by support partners. Satellite sources of basic seed and indicative investment plans drawn, and cost involved for desired seed structures such as screenhouse for production of on-farm basic that significantly lowers the cost and ensure that it easily available. Such structures also create constant awareness and reminding the local communities about measures to manage and maintain clean planting material. Could be referred to as local seed clinics for planting material.
2. Most of the seed production is dependent on produced rain-fed and seed production requires sizeable land which is becoming increasingly limiting due to land fragmentation.

In cases where is very limiting and farmers especially women could consolidate by engaging in joint group seed production ventures. In this way decisions on management factors such as isolation distance and input acquisition and even exploring opportunities could be easily managed. In this way seed could be group business enterprise since some SPAs such as Tabagon started as community savings and loans associations. SPAs should be encouraged to appreciate to invest in profitable seed business. Consider irrigation to supplement and regulate seed production

3. Explore comparative advantage of diversification through multiple crop seed enterprises or individual SPA members specialize. Explore the advantages of rotational seed crops and different maturity periods to harness the benefits diversified income streams. Opportunities of horizontal and vertical integration in seed production. Examples of vertical integration such as miniscreen seed production – open field seed production – silage making during off season. Horizontal such as seed crop diversification using the advantage of crop rotations and intercrops e.g. beans (legume) – sweetpotato or beans-maize intercrops would maximise on profits from land use and reducing on costs of production by apportioning total costs of production to different crops.
4. Generally, the role of NGO in nurturing and continued capacity building especially the production of planting material of VPCs is still vital since it's the youngest seed venture and the gains made in getting the operational seed value chain nodes is recommendable. Notably, removing NGO logistical support and coordination would lead to collapse of most seed producer association. For, example the sweetpotato regional associations depend on the partners to coordinate and finance inspection and certification. Essential inputs such aphid proof nets and basic seed are largely provided freely or at subsidised prices. Since seed information continues to be dynamic, continued support by NGOs and technical partners for capacity building of seed producers associations is still vital. Conducting cascading capacity building for member seed producers and possible dencetralised or satellite sub regional associations for regular information updates and basic seed sourcing could contribute to sustainability. However, recommended that support should be scaled out in phasal manner to allow the SPAs eventually gain control as private ventures. For example, whereas, the build-up existing seed structures was based on selected crop varieties, there has been reported demand by SPAs to get basic seed of varieties of their choice. Such evidence does not only connote appreciation of using clean planting material but provides window to allow then conduct their independent seed business. than farmer driven. Even the apex regional association are reliant on NGOs for information on production and marketing.

5. Many individual seed producers lack clear calendar and business plan and appropriate seed skills. Seed conservation and preservation or storage due to inaccurate timings and predictability of desired volumes. Rationally, MAAIF recommends the minimum seed plot size as 1 acre. Seed Producers lack rational decision on how the best to utilize that piece for seed production. There is needs to harmonise the calendar for seed production and consider compatible seed enterprises. In Uganda, the peak of seed demand is around March when both grain and vegetatively seed crops propagated are high demanded. Regional seed associations do not have clear information on seed demand in their respective areas of operations. Even some potential buyers are not aware of the availability of seed within their areas. The reason some travel long distances to community markets to buy seed. Unlike grain seed that can be stored after harvesting, VPCs cannot be stored so the need to determine appropriate time to plant and to catch up with the peak demand period requires supplemental irrigation as seed stimulus component for VPCs. Considering, these factors, seed production plan for multiple seed crops is demonstrated below:

Table. Horizontal and vertical integrated seed production and utilisation scheme

Period	Dec/Jan	Mar/Apr	May/Jun	Jun/Jul	Jul/Aug	Nov/Dec
Plant	Sweet potato		Sweet potato		Maize and beans	
Harvest and store						Maize and beans
Harvest and sell		Sweet potato			Sweet potato	
Sell		Maize and beans				
Value addition				Silage from sweet potato		Silage from maize stalks

NB: Grain seed planted once a year because they can be stored and sweetpotato planted twice because it is utilized fresh.

6. The other challenge was market for certified seed was not always guaranteed as it was largely supported by NGOs through projects that determine the prices. Whereas this kind of market is offers highly profitable prices, it is highly un-predictable, limited, and some individuals see producers under referred to as tertiary are not directly known by the SPAs and only sell or certified through the SPA registered members. This results in some seed producers having no voice and not contributing to matters affecting SPAs. SPAs should ensure all seed producers directly registered and their activities transparently monitored.

   Whereas the SPAs collectively, market members seed and earn income through percent charged on sales, they do not have clear production plans and projections. Irrationally,

SPA grow many varieties, but a few are marketed. It seemed that they are not always sure which ones will be marketed. Integrated seed would such silage making would absorb the unsold portion of seed. The association need to develop production plans and projection on demand and indicative prices.

7. Seed associations should enhance community seed awareness and coordination through established sub county development models platforms, radios and shows and simple messages using ICT. Seed association should come up with clear pricing stabilisation strategy for seed. Whereas it is relatively clearer for grain seed crops, price for sweetpotato planting material is fluctuates and depends on buyer-seller negotiations very unstable and largely determined by NGOs. Associations should periodically introduce seed stock taking and insurance schemes.
8. Seed inspection and certification of SPA sweetpotato fields is done by the MAAIF inspectors, and the cost is still met by the support NGOs such as HarvestPlus. Also, all varieties inspected are those targeted by the supporting NGOs, registered and basic seed sourced from known laboratories. Internal inspection is done by quality assurance team within the association and focuses mainly on ensure adequate availability of land for seed production and association supports acquisition of basic seed for members and enhancing GAPs. Internal inspection does not influence decision by the inspector.

There is strong need to strengthen the member skills and practices for quality inspection through cascading trainings and provision of simple reference material and seed approvals for planting especially within the communities of seed production. This would minimise the risks of delaying planting especially sweetpotato because there is a single inspector in the region that covers several districts. Reliant on a single inspector, especially during times of epidemics such COVID-19 that restricts movements may disrupt or fail timeliness in supplies.

3.2 Conclusions, and areas of attention

Findings form the different selected seed and planting material Producers Association (SPAs) reveal that most of the SPAs multiple seed crops to diversify incomes and security. Although, many varieties are grown by individual seed producers, selected varieties are sold. Not sure what happens to the remaining varieties that are not sold.

Most SPAs grow seed crops promoted by collaborating institutions who link them to specific markets. Thus, the local market preferred varieties are excluded.

Inspection and certification limited to registered seed associations and only varieties that included should be registered and released varieties. The challenge is that most local land races are not registered and do not have clean planting in the seed pipeline.

SPAs are viable platforms avenues for marketing the planting material and benefiting form the NGOs attractive prices.

Appendix

Appendix 1: Checklist for Seed Producers' Association

TO WHOM IT MAY CONCERN

Dear Participant

RE: INTERVIEWER CONSENT STATEMENT FOR STUDY WITH SEED PRODUCERS ASSOCIATIONS

My name is _____ from _____. This telephone interview is part of a study by NARI and the International Potato Center to find out how your Seed Producer Association (SPA) operates in order to plan capacity building activities based on shared knowledge and experiences.

We would like to interview you for this study as an office bearer or member of a seed producer association. This will take about 45 minutes of your time. The information and insights we collect from you are for research purposes only. Any information and insight collected from you will remain confidential, and your name will not be explicitly or implicitly identified in the analysis produced by our team. We anticipate no risks to your participation in this interview/discussion.

Participation in this interview/discussion is voluntary and you may refuse to participate, discontinue the interview/ discussion at any time, or skip any question you do not want to answer. Please confirm that you are you willing to participate in the interview: (1 - Yes 2 -No)

Please can we make an appointment to call you at a time that is convenient for you so that the interview will not be disrupted? It may be useful to have access to the association's records for some information about membership, sales, and sources of financial support

If yes, are you happy sharing your contact with us: Mobile number .....
e-mail.....

Do you mind sharing your contact with our colleagues if required for the research purpose? Yes=1 or No=2

CHECKLIST FOR SEED PRODUCER ASSOCIATIONS

Study objective

The main objective is to understand how seed is produced and organised in different seed associations

1.0 Respondent information

Date of interview (dd/mm/yyyy) _____Time of interview Start hh: mm _____ End hh: mm____

Geogrophical location: Region _____ District _____Village _____

Name of respondent: Last, middle, first..... Age..... Sex..... Telephone

Contact.....

Educational level: Primary ( ) Secondary ( ) Tertiary ( ) Graduate (√) above graduate ( ) [√ Tick]

2.0 Understanding the roles and responsibilities of association members

(These characteristics influence member involvement and contribution)

2.1 What is the name of your association? .....

2.2 Type of association 1=SACCO, 2 = community-based org (CBO), 3 = church/religious based org 4=other (specify)

2.3 When did the association start (month/year)? .....

2.4 Is the association registered, if so when was it registered (month/year)?

2.5 What type of registration (e.g. cooperative, company, NGO, other)

2.6 Does the association operate bank accounts? If yes, what type (e.g. current, savings?)

2.7 In how many districts does the association operate?

2.8 What are the main objectives of the association?

2.9 Position in Association: Chairperson (√) Secretary ( ) Vice chairperson ( ) Sub-committee chairperson ( ) Member ( ) other (specify)..... [√ Tick]

2.10 When did you (the respondent) join the association?.....

2.11 Are there annual membership fees? If so, what are they?

2.12 Is there any special fee structure for different types of members?

2.13 What other costs (financial, in kind, voluntary) associated with membership are incurred by members or office holders?

2.14 If not registered, why not? .....

3.0 Seed crops seed grown

3.1 List the focus seed crops?

Table 1: List the focus seed crops

Seed crop name	Varieties	Comments

3.2 How does the association ensure that recommended varieties and quality seed of the different crop(s) are planted by the members?

3.3 Does the association decide on the choice of crop(s) varieties to be planted by the different members?

3.4 How does the association support members to access starter material for planting?

3.5 Which are the most common crop(s) varieties sold by the association?

3.6 Does the association participate in decision regarding new release of variety?

3.7 Do you support your members for accessing new variety when it get released?

3.8 If yes, how do you support?

3.9 Does the association have members growing more than one variety?

3.10 How does the association decide on the acreage or quantity of planting material to be produced by each member?

3.11 How many seasons in a year is seed sold by the association?

3.12 What standard units does the association use to produce and sell seed?

Bags, bundles, suckers, etc.

Table 2: Seed crops and standard units

Seed Crop	Standard units					
	Bags		Bundles		Other: Specify	
	Quantity	Weight (Kg)	Quantity	Weight (Kg)	Quantity	Weight (Kg)

3.13 In the last two seasons, on average how many units (e.g. bags) did the association sell per season?

4.0 Understanding the membership dynamics by gender, objectives and operational structure

4.1 Currently how many active members does the association have? Please segregate them by sex. ..... men and .....women

4.2 Please list the criteria for members to join the association.

i.

ii.

iii.

iv.

v.

vi.

vii.

4.3 Do these criteria affect potential membership by women and or youth?

4.4 How many members have dropped out or left the association since it was registered? ..... (m/f)

4.5 What are the most common reasons for drop out?

4.6 How many operational committees does the association have?

4.7 In the table below, please name them and explain 2 key functions of each committee?

Table 3: Identifying the association committees and responsibilities

Name of sub-committee	#	Two Key functions	Comment
	1		
	2		
	1		
	2		
	1		
	2		
	1		
	2		
	1		
	2		

4.8 What benefits does association membership bring to members?

Table 4: Identifying the benefits extended to members by association

Benefit	How often*

NB: *(yearly, quarterly, half-yearly monthly, weekly, seasonal, and daily)

5.0 Sources of financing the association activities

5.1 Does the association have a business plan??

5.2 If yes, how often is it updated?

5.3 **Table 5: Organization and implementation of activities**

Activity	Individual	Jointly	Externally
Buying initial seed			
Seed production			
Quality management			
Branding			
Market promotion			
Selling seed			
Other (specify)			

5.4 How does the association decide on price of seed?

5.5 Does the association have internal savings and loans system?

5.6 Ways of generating funds and resources by the association

Table 6. Sources of financial and in-kind support to the association

Source of support	Yes/No	Units	Value	Source category (Tick)			Comment
				Revenue	Grants	Loans	
Association revenue and donors							
% sales contribution by members on consolidated sales for association operational costs	Yes						
% interest rate on internal association saving loans given to members (If yes in 7.6)	NA						
Membership subscriptions (UGX) per member per season?							
Annual membership subscription (UGX) per member							
Collaborating NGO (Name):							
Public sector (Name):							
Loans obtained by the association							
Other (Specify)							
Quantity of Pesticide							
Quantity of Aphid net							
Quantity of Fertilizer							
Quantity of Other (Specify)							

Please provide the key contacts of supporting organization mentioned in the table above (May be useful during follow up with partners)

5.7 If the association has obtained loans, what is the collateral/guarantor? ....., and source of loan? _____

6.0 Inspection and certification of planting material

6.1 How do you ensure that the materials produced by your members meets required seed standards set by the government?

i. Who inspects and certifies the members' fields and how many inspections are conducted?

ii. Explain how internal association quality control is done?

6.2 How many ratoons do you recommend for vegetatively propagated crops (VPCs)?

7.0 Marketing and Branding

7.1 **How the association organizes sales of seed produced**

7.1.1 Who are the association's regular customers? List

7.1.2 How does the association raise awareness of commercial value of seed and demand for conservation and multiplication?

7.1.3 If yes, how?

7.1.4 What kind of support does the association provide your members to increase their sales of planting materials?

7.2 **Branding**

7.2.1 What products or different classes does the association sell?

7.2.2 What makes your product special?

7.2.3 How does the association ensure that the counterfeit products are easily identified?

7.2.4 How expensive is the associations' products compared to other related similar products on the market?

7.2.5 Does the association have different labels for different types of seed and classes?

8.0 Monitoring and record keeping

8.1 What type of operational records do keep? (Tick)

a. Input records such basic material, cultivation and fertilizer
b. Production records
c. Sales and distribution records
d. Quality assurance records
e. Any other record.....

8.2 How do you keep each of these records mentioned above?

8.3 Do you maintain customer database?

8.4 How do you maintain? 1=digital; 2=hard copies 3=others (specify)

8.5 If yes, how often do you update?

8.6 How do you update?

9.0 Awareness and market promotional opportunities

9.1 Communication or exchange activities aimed at advertising the planting material and persuading customers. What type of promotional activities does association support to their members and when?

Table 7. Promotional activities and participation in achievement days

Activity	How often	Comment
National Field day		
Roadside markets		
Poster		
Demonstrations		
Seed fairs		

What have been main successes and challenges of the association?

a) Main Successes

b) Main Challenges

Do you have any question for me?

THANK YOU FOR YOUR TIME AND RESPONSES

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For more information, please contact CIP Headquarter. Av. La Molina 1895, La Molina. Apartado 1558, Lima 12, Peru.
5-11-3496017 *cip-cpad@cgiar.org* *www.cipotato.org* | *@cipotato* *@Cipotato* *@cip_cipotato*

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